2/8 - (C) FILE CAPLUS
STN CA Caesar accession number : 1850
AN - 2003:573105 CAPLUS
DN - 140:168543
TI - Identification of risk scenarios in the phenol-acetone process. Part II: The cumene hydroperoxide cleavage section
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SO - American Institute of Chemical Engineers, [Spring National Meeting], New Orleans, LA, United States, Mar. 30-Apr. 3, 2003 (2003), 2329-2340
Publisher: American Institute of Chemical Engineers, New York, N. Y.
CODEN: 69DYXB
DT - Conference; (computer optical disk)
LA - English
AB - The (cumene hydroperoxide) CHP cleavage section is the second reaction unit in the flowsheet for phenol-acetone prodn.: the cleavage takes place in two tubular reactors, each of them incorporating two cooling sections. Kinetics is very fast and low contact times are required. A high recirculation ratio has to be applied to keep CHP concn. low enough. Like the cumene oxidn. unit the Dow Fire and Explosion Index has been calcd. for hazard identification, showing that the degree of hazard for the cleavage reactor falls within the class of moderate risks according to the Dow classification. Then the dynamic simulation of this section has been performed in order to identify risk scenarios. It is well known that the chance of CHP thermal decompn. increases as CHP concn. and/or operating temp. increase. An increase in CHP concn. may occur because of a reaction stop, mainly due to neutralization of H_2SO_4, the catalyst, by means of NaOH coming from the preceding sections of the plant.
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ALL CITATIONS AVAILABLE IN THE RE FORMAT